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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/980,806 | 04/15/2002 | Barry Hemblade | C60.12-0001 | 8448 |

7590 06/02/2004

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Suite 1600 International Centre
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EXAMINER

HE, AMY

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2858

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|---------------------------------|-----------|
| Office Action Summary | Application No. 09/980,806 | Applicant(s) HEMBLADE, BARRY | |
| | Examiner Amy He | Art Unit 2858 | <i>AW</i> |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-10 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 2, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Turner et al. (U. S. Patent No. 4, 338, 097).

Referring to claim 1, Turner discloses an apparatus (monitoring probe, column 2, line 66-column 3, line 44) for monitoring the effect of a material of exposure to a fluid, said apparatus comprising a sensor element (7a in Figures 2-3) formed as a closed ring (complete ring, column 2, lines 33-34) of the material (thin rings machined from a sample of the pipe, column 3, lines 9-13), wherein said ring is mounted coaxially in a section of pipe for carrying said fluid, so as to be exposed to said fluid, and is electrically insulated from said pipe, and resistance monitor(circuit shown in Figures 5-6) coupled to monitor changes in electrical resistance in said ring sensor element (column 2 line 66-column 4, lines 45).

Referring to claim 2, Turner discloses the apparatus as claimed in claim 1 further comprising a reference element (7b in Figures 2-3), said reference element being formed also as a ring, mounted coaxially in said pipe section and insulated therefrom, said second ring element being protected from exposure to said fluid.

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Referring to claim 8, Turner discloses the apparatus as claimed in claim 2, wherein said elements (7a and 7b in Figures 2-3) are coaxially spaced apart by a spacer ring (9 in Figures 2-3).

Referring to claim 10, Turner discloses the apparatus as claimed in claim 1, wherein at least said sensor element (7a in Figures 2-3) comprises a section cut from said pipe (column 3, lines 10-13).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turner et al. (U. S. Patent No. 4, 338, 097), in view of G. A. Marsh et al. (U. S. Patent No. 2, 987, 672).

Referring to claims 3-6, Turner discloses that the sensor and reference elements (7a and 7b in Figures 2-3) each comprise a predetermined number of pairs of electrical connection points regularly spaced around the respective ring (see pairs of connections shown in Figure 3);

wherein said sensor and reference element (7a and 7b in Figures 2-3) are connected in series (column 3, lines 39-40) by respective pairs of connection points,

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and said means for monitoring (circuits in Figures 5-6) is arranged to determine the ratio of the resistances of said elements;

wherein said means for monitoring (circuits in Figures 5-6) is arranged to drive a current through said series connected elements and to pick off voltage values from the various connection points (column 4, lines 28-56).

Still referring to claims 3-6, Turner does not specifically disclose that the electrical connections are diametrically opposed to each other.

G. A. Marsh discloses diametrically opposed electrical connections (see Figures 4 and 8). A person of ordinary skill in the art at the time of the invention would find it obvious to modify Turner to disclose diametrically opposed electrical connections, as taught by G. A. Marsh, for more accurately monitoring the corrosion of the pipe, since certain corrosion occurs at limited area and detecting at various circumferential positions to determine the localized form of corrosion are desired.

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Turner et al. (U. S. Patent No. 4, 338, 097), in view of Rhoades et al. (U. S. Patent No. 4, 587, 479).

Referring to claim 9, Turner discloses a spacer ring adjacent the test element. Turner does not specifically disclose that the spacer ring comprises a pressure sensor. Rhoades discloses a pressure sensor (144, column 43-57) adjacent the probe element. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the spacer ring of Turner to comprise a pressure sensor, as taught

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by Rhoades, to measure the pressure for compensating errors in corrosion due to fluid pressure of the environment.

Allowable Subject Matter

4. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 7 is allowable because none of the prior art discloses an apparatus for monitoring the effect on a material of exposure to fluid, comprising reconnecting the elements in series by different pairs of diametrically opposed connection points, and in the combination as claimed.

Response to Arguments

5. Applicant's arguments filed March 8, 2004 have been fully considered but they are not persuasive because Turner et al. (U. S. Patent No. 4, 338, 097) does suggest a closed ring. Specifically, Turner discloses (in column 2, lines 33-34) a test element "in the form of a complete ring may be employed". Turner also discloses (in column 1, lines 59-61) "the test element extends round all... the pipe interior cross-section". Furthermore, Turner suggests that monitoring corrosion occurring anywhere round the pipe wall is desired.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy He whose telephone number is (571) 272-2230.

The examiner can normally be reached on 9:30am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on (571) 272-2233. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

AH
May 25, 2004


N. Le
Supervisory Patent Examiner
Technology Center 2800